STEREO SYNTHESIZER TUNER

KT-45

SERVICE MANUAL

KENWOOD

TRIO-KENWOOD CORPORATION

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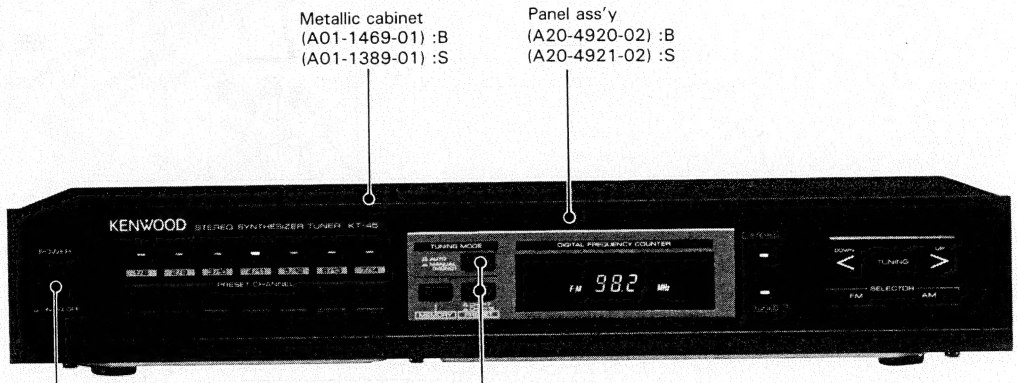
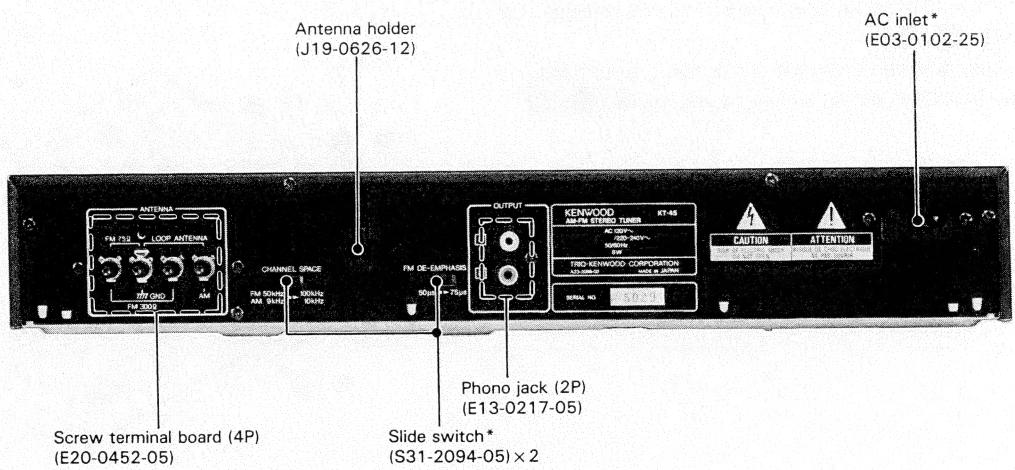
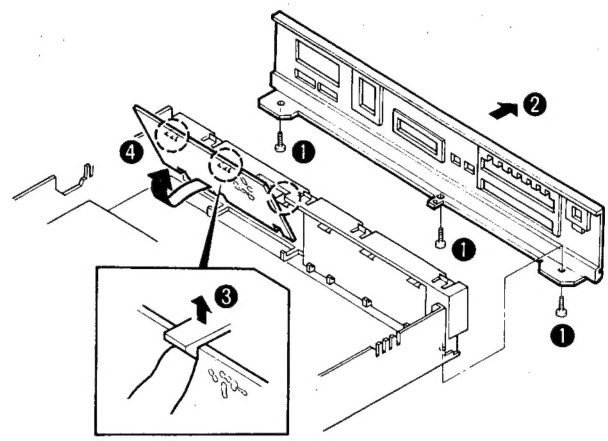




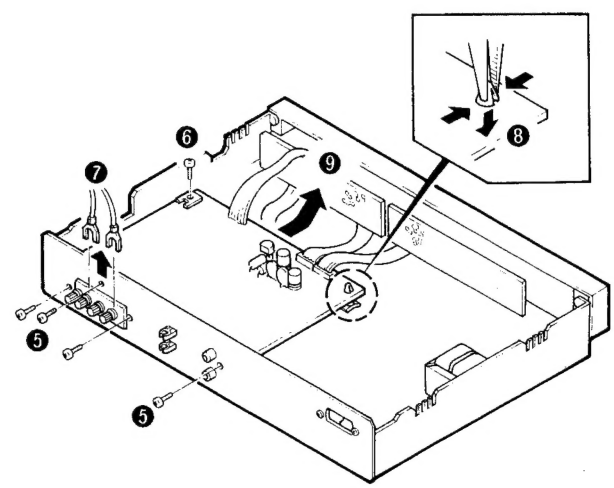
* Refer to Parts List on page 16.

DISASSEMBLY FOR REPAIR

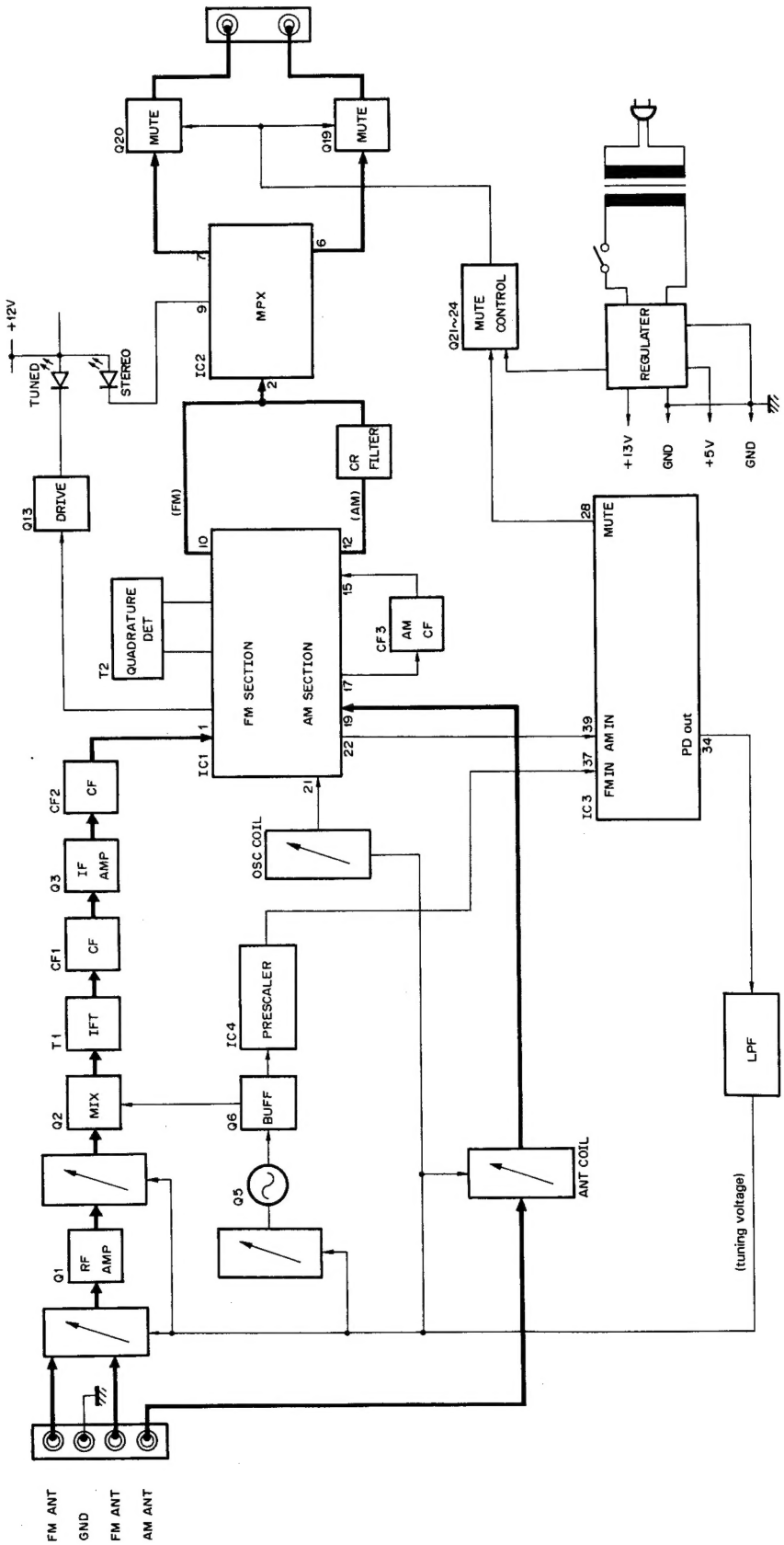
1. To remove the pc boards behind the sub panel, remove 3 screws at the bottom of the panel and take the panel off first (❶, ❷).
2. Push the pawls at the top side of the pc board upward and release the pc board from them (❸). Pull the pc board out as shown by the arrow (❹).



3. Remove 3 screws from the antenna terminal and 1 screw from the phono jack (❺).
4. Remove the AM loop antenna and 1 screws retaining the pc board (❻, ❼).
5. Release the pc board from the unit holder (pc support) and slide the pc board out as shown by the arrow (❽, ❾).



BLOCK DIAGRAM



CIRCUIT DESCRIPTION

DESCRIPTION OF ELEMENTS

TUNER UNIT (X05-3110-00)

Components	Functions	Operations, Conditions & Interchangeability
IC1	FM/AM system IC	FM IF amplification, detection, & control, AM mixer, IF amplification & detection
IC2	MPX IC	MPX demodulation
IC3	DTS controller	Controller for PLL synthesizer, display, etc.
IC4	Prescaler	Divides FM OSC frequency by 1/30 or 1/32
Q1	FM FR amplifier	
Q2	FM MIX	
Q3	FM IF amplifier	
Q5	FM OSC	
Q6	FM OSC Buffer	
Q7	Switch	ON in FM mode; OFF in AM mode
Q8	TUNED switch	Turns OFF; Otherwise ON
Q13	Buffer	On when TUNED LED is lit
Q16, 17	PLL DC amplifier	Darlington connected pair comprising high input impedance high gain amplifier
Q19, 20	Muting	ON when muting
Q21	Power supply mute drive	ON when power supply is ON
Q22	Mute logic composition	Synthesizes power supply mute and DTS mute signals
Q23, 24	Mute drive	Used to dive Q19 and 20
Q25, 26	Switch	ON during AM reception; Used to supply power to "kHz" and "AM" display circuits
Q29, 30	50 kHz display driver	Drives the "50 kHz" display when FM frequency is displayed
Q31, 32	Switch	Displays "FM" and "MHz" during FM reception
		50 fkHz display driver power supply for FM reception
Q33	Grid controller, inhibit	Slow-ON fast OFF circuit for preventing erroneous lighting of display tubes when switching power ON/OFF. The DTS inhibit signal is also generated by dividing the collector voltage

CIRCUIT DESCRIPTION

Components	Functions	Operations, Conditions & Interchangeability
Q34, 35, 36	Regulated supply circuit	
Q37	5.6 V regulated power supply circuit	
D1, 2	RF tuning varactor diode	
D4	OSC varactor diode	
D5-1	AM RF tuning varactor diode	
D5-2	AM OSC varactor diode	
D7	VCO killer switch	Stops PLL MPX VCO in AM mode
D9	Protector	Prevents reverse voltage breakdown between base and emitter of Q21
D10	Discharge circuit	When power supply is OFF, C69 discharges, turning Q21 ON immediately
D11	Reverse current prevention	Prevents discharge of DTS backup power supply
D12	Level shift	4.7 V
D13	Clamper	Clamps collector voltage of Q33 and specifies inhibit voltage of DTS
D14	Reference voltage zener diode	6.2 V
D15, 16, 17, 18	Rectifier circuit	For 12 V power supplies
D19, 20	Rectifier circuit	For 5.6 FV power supplies
D21, 22	Rectifier circuit	For muting circuit
D24	Clamper	Prevents destruction of circuits due to high static voltages
D25	Switch	Cancellation of forced monaural by TUNED ON
D26	Manual switch	Forcibly puts IC2 into monaural mode during manual mode
D27	Constant voltage zener diode	4.7 V

CIRCUIT DESCRIPTION

STATIC FM/AM (MW)/*LW 3-BAND DIGITAL TUNING SYSTEM LSI

The TC9157AP is a system LSI comprising one chip of PLL circuit controller for PLL synthesizer type digital tuning system.

The TC9157AP is used as a 3-band tuner in South Africa and Europe. There are the following versions, based on different frequency display systems.

TC9157AP: Digital display by 7-segment display unit by adding TD6301AP.
Applied to South Africa, U.S.A. and Europe. (FM/AM 2-band in U.S.A. and FM/MW/LW 3-band in South Africa and Europe)

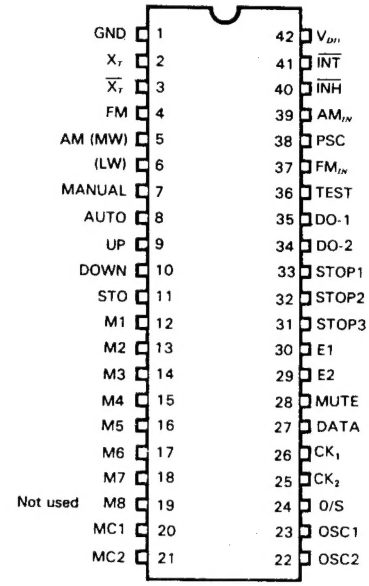
Operation keys, frequency display and operation display are static type.

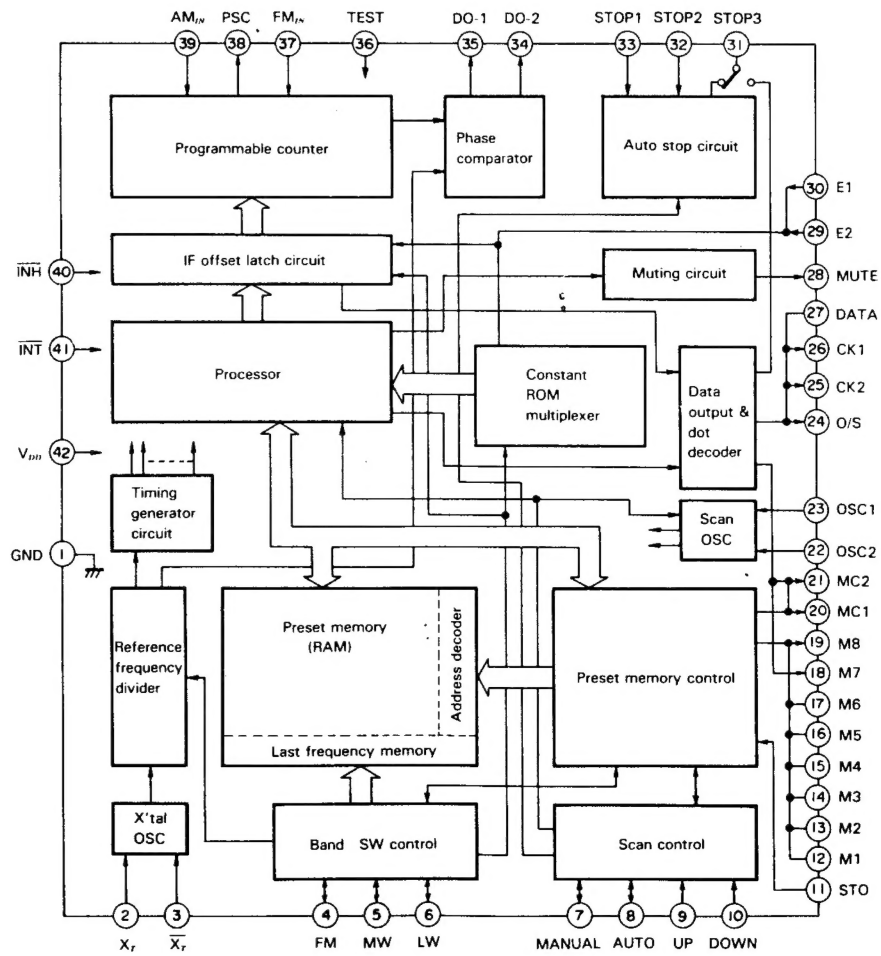
Preset memory of 14 stations is contained. Last frequency memory and last channel memory of each band are also contained.

In FM mode, a swallow counter is formed in combination with the TD6104P prescaler, making the reference frequency 25 kHz.

TC9157AP

Pin connection





CIRCUIT DESCRIPTION

Functions of Each Terminal: IC3 (TC9157AP)

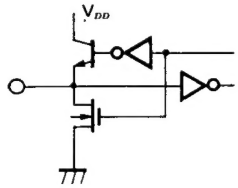
*** Make indicates Europe models.**

Pin No.	Symbol	Name	Function	Remarks
2	X_T	Crystal oscillator	Connect crystal for reference frequency of 7.2 MHz	Feedback resistance contained
3	X_T			
4	FM	FM band selection input	Munual reset type. Switch FM, MW and *LW bands.	A
5	AM (MW)	AM (MW) band selection input		
*6	*LW	LW band selection input		
7	MANUAL	Manual tuning mode selection input	Munual reset type. Switch manual mode at UP/DOWN channel selection.	A
8	AUTO	Auto search tuning mode selection input	Not used.	A
9	UP	UP control key input	UP/DOWN channel selection made by the push key. S4, 5	B
10	DOWN	Down control key input		
11	STO	Memory store instruction input	With this memory S13's input, preset memory is set to write condition.	A
12-18	M1-M7	Preset memory channel selection input	Control writing and reading of internal 14-channel preset memory in combination with MC1 and MC2 inputs.	A
20	MC1	Memory control input	Set 14-channel preset memory to random system of FM/AM (MW/LW).	C
21	MC2			
22	OSC2	AM oscillator terminal	Connect C and R of the oscillator to determine scan speed at AM search.	—
23	OSC1	FM oscillator terminal	Connect C and R of the oscillator to determine scan speed at FM search.	—
24	O/5	FM 50 kHz output	Output indicating 50 kHz and step in FM band in South Africa and Europe. "H" level at 50 kHz.	D
25	CK1	Receiving frequency data serial output	Output the serial data and timing clock to be sent to TD6301AP driver for digital display of receiving frequency.	D
26	CK2			
27	DATA			
28	MUTE	Muting signal output	"H" level when muting signal is output.	D
29	E2	Area selection input	Designate each area, U.S.A., Europe and South Africa.	E
30	E1			
31	STOP3	AM-IF signal input	Not used.	F
32	STOP2	Auto search stop signal input	Not used.	E
33	STOP1	Scan speed slow input		
34	DO-2	Phase comparator output	Two tri-state buffer outputs are output in parallel from one phase comparator.	G
35	DO-1			
36	TEST	Test terminal	Not connected.	B
37	FM_{IN}	FM programmable counter input	Output of TD6104P prescaler is connected.	F
38	PSC	Prescaler control output	Control frequency dividing of 1/30 and 1/32 of TD6104P prescaler.	D
39	AM_{IN} (MW_{IN})	AM (MW) programmable counter input	Enter AM (MW) station oscillating signal.	F
40	INH	Inhibit input	Normal operation at "H" level and inhibit at "L".	E
41	INT	Initialize input	Normal operation at "H" level and internal condition is initialized at "L".	E
42	V_{DD}	Power application terminal		
1	GND			

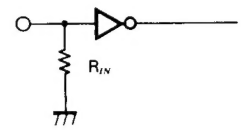
CIRCUIT DESCRIPTION

Input/output equivalent circuit

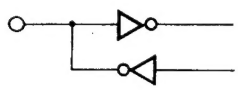
A. I/O type with built-in LED driver of bipolar transistor



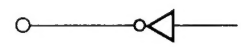
B. C-MOS input with pull-down resistor



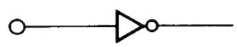
C. C-MOS I/O type



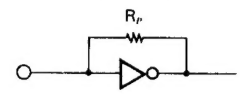
D. C-MOS output



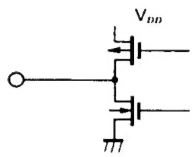
E. C-MOS input (without pull-up/down resistor)



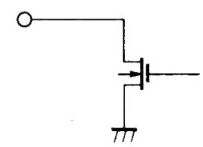
F. With built-in input amplifier



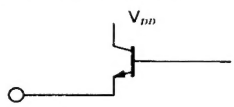
G. Tri-state output



H. LED driver output of Nch MOS



I. LED driver output of bipolar transistor



- **Channel select function**
  1) Manual tuning with UP/DOWN key
     - 1 step/1 push step tuning
     - Fast tuning by pressing key continuously
  2) Preset tuning by reading memory

- **Preset memory and last frequency memory**
  1) 14-station preset memory is contained.
     - 14-stations, regardless of the selected band FM or AM (MW/LW) can be preset at random.
  2) Last frequency memory is provided for each band of FM/AM (MW)/LW.
     - The last frequency memory is capable of storing preset memory channel number together with frequency data. (Last channel memory function)
  3) All memories consist of static type C-MOS RAM.

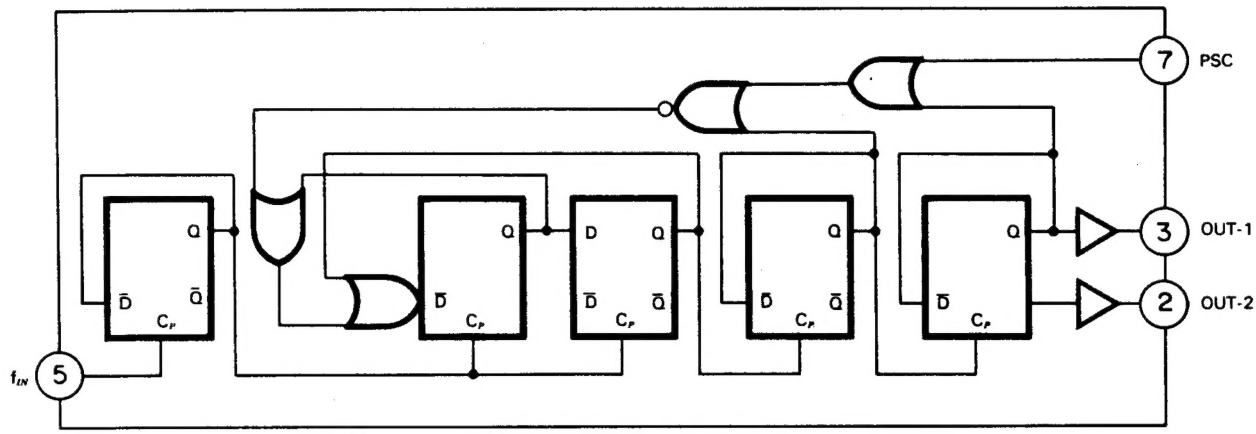
- **Display function**
  1) All displays are static type.
  2) LED driver is provided for displaying bands, MANUAL/AUTO modes and memory channels.
  3) Receiving frequency is displayed in the digital system by connecting TD6301AP.

- **Inhibit function**

  All input/output operations are inhibited by this function, and LSI operations including OSC oscillation are completely stopped. With this function, the receiving state including the memory contents is backed up for a long time by the capacitor when the power of the set is off.

CIRCUIT DESCRIPTION

Logic diagram: TD6104P (IC4: Prescaler)

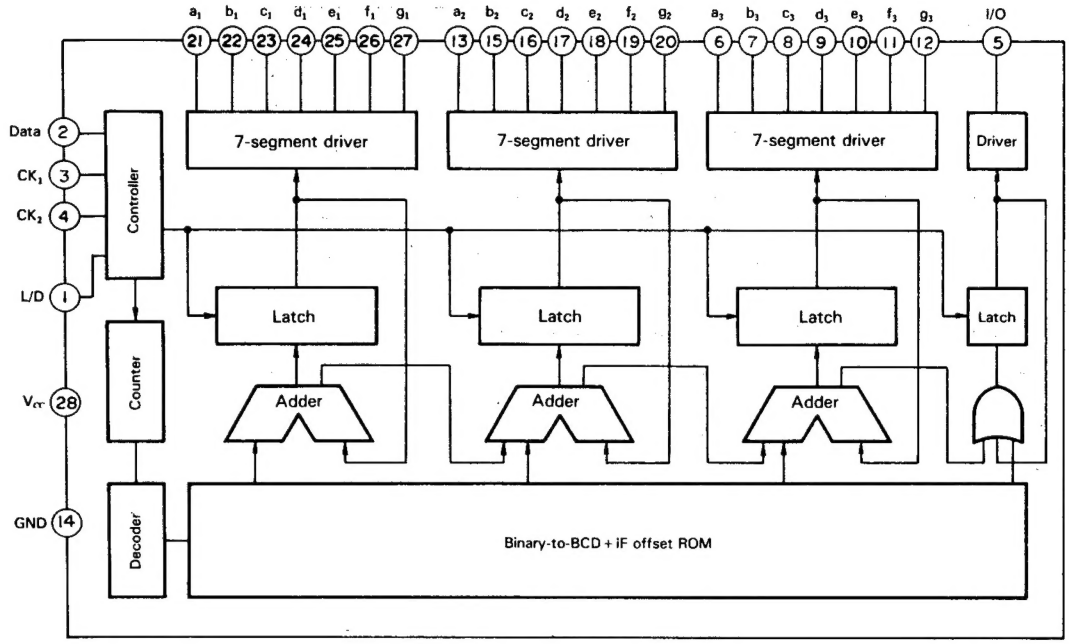


Functions of Each Terminal

Pin No.	Name	Function	Remarks
5	f_{IN}	FM station signal input terminal Frequency range: 60 — 140 MHz Input level: 75 — 300 mVrms	
3	OUT-2	Output obtained by dividing the input signal from the dividing output terminal f_{IN} into 1/30 or 1/32 Output level: 0.5 (V) MIN	
2	OUT-2	Not used	
7	PSC	Dividing number select/control terminal 1/32 at $V_{PSC} \geq 2$ (V) 1/30 at $V_{PSC} \leq 1$ (V)	
6	C	Connect C5 0.01 μF to GND as a path controller of the bias circuit.	
1 4	V_{CC} GND	Power supply terminal V_{CC} = 5 V	

CIRCUIT DESCRIPTION

Block diagram: TD6301AP (IC1; FIP driver)



Function of each connection

Pin No.	Name	Function
1	L/D	Output state switching input terminal. Switch the output state according to the display unit.
2	DATA	Receiving frequency data input terminal. The data is serially input by the system controller LSI.
3, 4	CK1, CK2	Receiving frequency data input control timing input terminal. Transferred simultaneously with the data by the system controller LSI.
5	I/O	Segment driver terminal. Dislay the 100 MHz digit at FM and 1000 kHz digit at AM.
6 — 12	a3 — g3	7-segment driver output terminal. Display the 10 MHz digit at FM and 100 kHz at AM.
13, 15 — 20	a2 — g2	7-segment driver output terminal. Display the 1 MHz digit at FM and 10 kHz digit at AM.
21 — 27	a1 — g1	7-segment driver output terminal. Display the 100 kHz digit at FM and 1 kHz digit at AM.
14	GND	GND terminal
28	V_{cc}	Supply voltage apply terminal

ADJUSTMENT

No.	ITEM	INPUT SETTINGS	OUTPUT SETTINGS	TUNER SETTINGS	ALIGNMENT POINTS	ALIGN FOR	FIG.
FM SECTION	Unless otherwise specified, the individual switches should be set as following: SELECTOR: FM MODE: AUTO						
1	BAND EDGE (1)	—	Connect a DC voltmeter between TP1 and TP2(GND).	87.5MHz	L7	2.5V	(a)
2	BAND EDGE (2)	—	Connect a DC voltmeter between TP1 and TP2(GND).	108.0MHz	TC1	8.0V	(a)
	Repeat alignments 1 and 2 several times.						
3	RF ALIGNMENT	(A) 85.0MHz 1kHz,±75kHz dev	(B)	MONO 85.0MHz	L2,4	Maximum amplitude and symmetry of the oscilloscope display.	
4	DISCRIMINATOR	(A) 85.0MHz 1kHz,±75kHz dev 60dBμ(ANT input)	Connect a DC voltmeter between TP9 and TP10(GND).	MONO 85.0MHz	T2	0V	(b)
5	VCO	(A) 85.0MHz 0 dev 60dB(ANT input)	Connect a 330Ω resistor to TP3. Connect a frequency counter to the resistor via an AC voltmeter.	85.0MHz	VR1	76.00kHz	(c)
6	TUNING LED	(A) 85.0MHz 0 dev 18dB(ANT input)	TUNING LED	85.0MHz	VR3	Adjust VR3 so that TUNING LED goes off. Then, adjust VR3 and stop at the point where TUNING LED goes on.	
AM SECTION	Keep the AM loop antenna installed. SELECTOR: AM						
(1)	BAND EDGE (1)	—	Connect a DC voltmeter between TP1 and TP2(GND).	530kHz (531kHz)	L9	1.5V	(d)
(2)	BAND EDGE (2)	—	Connect a DC voltmeter betwwen TP1 and TP2(GND).	1600kHz (1602kHz)	TC3	8.0V	(d)
	Repeat alignments (1) and (2) several times.						
(3)	RF ALIGNMENT (1)	(D) 630kHz 400Hz,30% mod	(B)	630kHz	L11	Maximum amplitude and symmetry of the oscilloscope display.	
(4)	RF ALIGNMENT (2)	(D) 1440kHz 400Hz,30% mod	(B)	1440kHz	TC2	Maximum amplitude and symmetry of the oscilloscope display.	
	Repeat alignments (3) and (4) several times.						
(5)	TUNING LED	(D) 1000(999)kHz 400Hz,30% mod 25dB(ANT input)	(B)	1000(999)kHz	VR4	Adjust VR4 so that TUNING LED goes off. Then, adjust VR4 and stop at the point where TUNING LED goes on.	

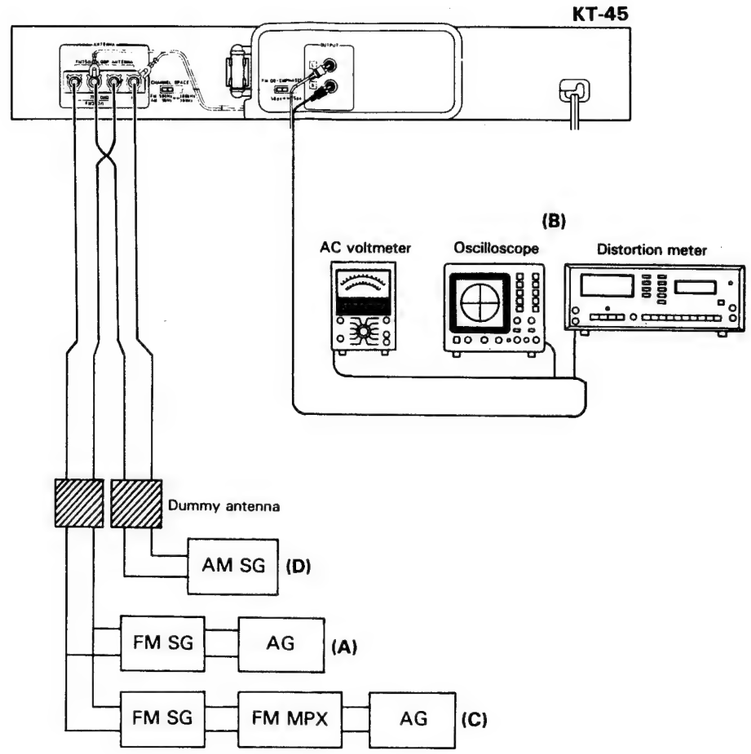
REGLAGES

N°	ITEM	REGLAGE DE L'ENTREE	REGLAGE DE LA SORTIE	REGLAGE DU TUNER	POINT DE L'ALIGNEMENT	ALIGNER POUR	FIG
SECTION MF	Sauf en cas d'indications spéciales, régler chaque commutateur comme suit: SELECTOR: FM MODE: AUTO						
1	BORD DE BANDE (1)	—	Connecter un voltmètre CC entre les TP1 et TP2(GND).	87,5MHz	L7	2,5V	(a)
2	BORD DE BANDE (2)	—	Connecter un voltmètre CC entre les TP1 et TP2(GND).	108,0MHz	TC1	8,0V	(a)
	Répéter les alignements 1 et 2 plusieurs fois.						
3	ALIGNEMENT HT	(A) 85,0MHz 1kHz.±75kHz dév	(B)	MONO 85,0MHz	L2.4	Amplitude et symétrie maximale de l'affichage de l'oscilloscope.	
4	DISCRIMINATEUR	(A) 85,0MHz 1kHz.±75kHz dév 60dB(Entrée ANT)	Connecter un voltmètre CC entre les TP9 et TP10(GND).	MONO 85,0MHz	T2	0V	(b)
5	OSCILLATEUR CONTROLE PAR LA TENSION	(A) 85,0MHz 0 dév 60dB(Entrée ANT)	Relier une résistance de 330kΩ à TP3. Raccorder un compteur de fréquence à une résistance par l'intèrmediaire d'un voltmétre CA.	85,0MHz	VR1	76,00kHz	(c)
6	LED ACCORDER	(A) 85,0MHz 0 dév 18dB(Entrée ANT)	LED ACCORDER	85,0MHz	VR3	Ajuster VR3 que TUNE LED est non allumé. Alors, ajuster VR3 et arrêter le mouvement de VR3 au moment où le TUNE LED s'allume.	
SECTION MA	Laisser l'antenne boucle MA installée. SELECTOR: AM						
(1)	BORD DE BANDE (1)	—	Connecter un voltmètre CC entre les TP1 et TP2(GND).	530kHz (531kHz)	L9	1,5V	(d)
(2)	BORD DE BANDE (2)	—	Connecter un voltmètre CC entre les TP1 et TP2(GND).	1600kHz (1602kHz)	TC3	8,0V	(d)
	Répéter les alignements (1) et (2) plusieur fois.						
(3)	ALIGNEMENT HT (1)	(D) 630kHz 400Hz.30% mod	(B)	630kHz	L11	Amplitude et symétrie maximale de l'affichage de l'oscilloscope.	
(4)	ALIGNEMENT HT (2)	(D) 1440kHz 400Hz.30% mod	(B)	1440kHz	TC2	Amplitude et symétrie maximale de l'affichage de l'oscilloscope.	
	Répéter les alignements (3) et (4) plusieur fois.						
(5)	LED ACCORDER	(D) 1000(999)kHz 400Hz.30% mod 25dB(Entrée ANT)	(B)	1000(999)kHz	VR4	Ajuster VR4 que TUNE LED est non allumé. Alors, ajuster VR4 et arrêter le mouvement de VR3 au moment où le TUNE LED s'allume.	

ABGLEICH

NR.	GEGENSTAND	EINGANGS-EINSTELLUNG	AUSGANGS-EINSTELLUNG	TUNER-EINSTELLUNG	ABGLEICH-PUNKTE	ABGLEICHEN FÜR	ABB.
UKW-EMPFANGSABTEILUNG		Außer wenn anders angegeben, die verschiedenen Schalter wie folgt einstellen: SELECTOR: FM MODE: AUTO					
1	BANDKANTE (1)	–	Einen Gleichspannungs-messer zwischen TP1 und TP2(GND) anschließen.	87,5MHz	L7	2,5V	(a)
2	BANDKANTE (2)	–	Einen Gleichspannungs-messer zwischen TP1 und TP2(GND) anschließen.	108,0MHz	TC1	8,0V	(a)
Abstimmungen 1 und 2 mehrere Male wiederholen.							
3	HF-ABGLEICH	(A) 85,0MHz 1kHz.±75kHz Hub	(B)	MONO 85,0MHz	L2.4	Maximal Amplitude und Symmetrie des Oszilloskopbildes.	
4	DISKRIMINATOR	(A) 85,0MHz 1kHz.±75kHz Hub 60dB(ANT-Eingang)	Einen Gleichspannungs-messer zwischen TP9 und TP10(GND) anschließen.	MONO 85,0MHz	T2	0V	(b)
5	SPANNUNGS-GEREGELTER OSZILLATOR	(A) 85,0MHz 0 Hub 60dB(ANT-Eingang)	Einen 330kΩ Wider-standen zu TP3 anschließen. Einen Frequenzzähler über einen Wechselspannungs messer an den Wider-stand anschließen.	85,0MHz	VR1	76,00kHz	(c)
6	ABSTIMM LED	(A) 85,0MHz 0 Hub 18dB(ANT-Eingang)	ABSTIMM LED	85,0MHz	VR3	Den Pegel widerstand VR3 so einstellen, deß der TUNING LED anzeiger nicht leuchtet. Dann der Pegel widerstand aufdrehen, und dem VR3 Halt geben wobei den TUNING LED anzriger leuchtet wird.	
MW-EMPFANGSABTEILUNG		Die MW-Rahmenantenne angebracht lassen. SELECTOR : AM					
(1)	BANDKANTE (1)	–	Einen Gleichspannungs-messer zwischen TP1 und TP2(GND) anschließen.	530kHz (531kHz)	L9	1,5V	(d)
(2)	BANDKANTE (2)	–	Einen Gleichspannungs-messer zwischen TP1 und TP2(GND) anschließen.	1600kHz (1602kHz)	TC3	8,0V	(d)
Abstimmungen (1) und (2) mehrere Male wiederholen.							
(3)	HF-ABGLEICH (1)	(D) 630kHz 400Hz.30% mod	(B)	630kHz	L11	Maximale Amplitude und Symmetrie des Oszilloskopbildes.	
(4)	HF-ABGLEICH (2)	(D) 1440kHz 400Hz.30% mod	(B)	1440kHz	TC2	Maximale Amplitude und Symmetrie des Oszilloskopbildes.	
Abstimmungen (3) und (4) mehrere Male wiederholen.							
(5)	ABSTIMM LED	(D) 1000(999)kHz 400Hz.30% mod 25dB(ANT-Eingang)	(B)	1000(999)kHz	VR4	Den Pegel widerstand VR4 so einstellen, deß der TUNING LED anzeiger nicht leuchtet. Dann der Pegel widerstand aufdrehen, und dem VR4 Halt geben wobei den TUNING LED anzriger leuchtet wird.	

ADJUSTMENT



PC BOARD

X05-3110-10

Q1

G	0V
S	9.8V
D	0V

Q2

E	—
C	—
B	1.5V

Q3

E	1.0V
C	9.6V
B	1.8V

Q5

E	4.8V
C	11.4V
B	—

Q6

E	0V
C	9.9V
B	—

Q7

E	0V
C	0V
B	—

Q8

E	0V
C	3.8V
B	—

Q16

E	0V
C	—
B	0.6V

Q17

E	0.6V
C	—
B	1.1V

Q19

E	—
C	—
B	MUTE ON 0.7V

Q26, 31

E	12.0V
C	—
B	—

Q34, 33

E	12.0V
C	—
B	—

Q37

E	5.6V
C	—
B	—

IC1

1	2.3 V	9	3.5 V)
2		10	(3.0 V)
3		11	1.4 V
4	9.9 V	12	
5		13	3.0 V
6	9.5 V	14	
7	0 V	15	2.3 V
8		16	1.4

IC2

1	10.3 V	11	2.5
2	2.6 V	12	
3	6.1 V	13	2.6 V
4		14	
5	8.2 V	15	3.2 V
6		16	0.2 V
7	3.5 V		
8	0 V		
9	0.7 V		

IC4

1	5.4 V
2	4.8 V
3	4.4 V
4	0 V
5	3.9 V
6	4.0 V
7	2.2 V

IC3

32 33	3.8 V

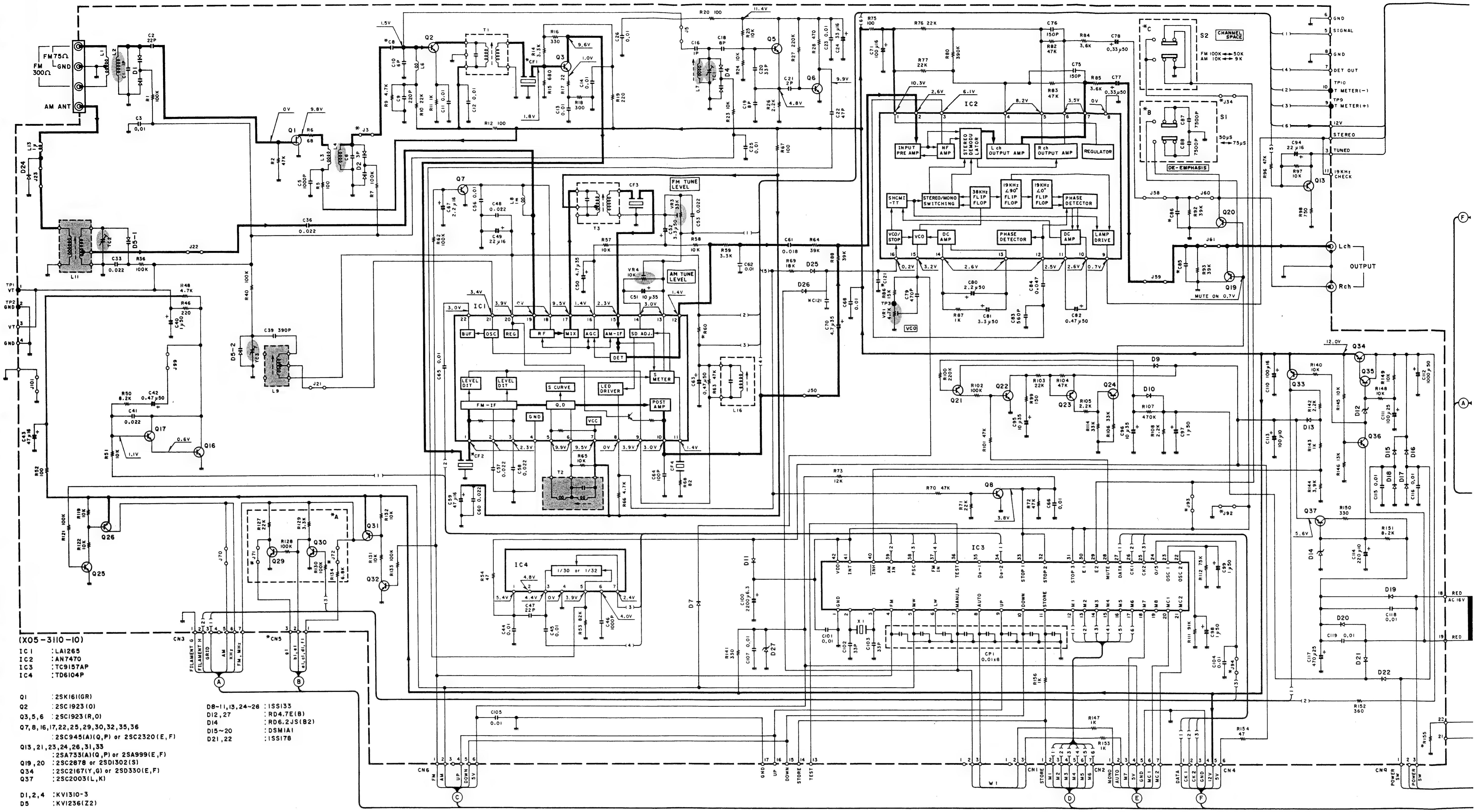
TUNER UNIT (X05-3110-10)
Component side view

WHT
RED
GRD
RED
RED

(a) DC voltmeter
(b) DC voltmeter
(c) Frequency counter
AC voltmeter
330 kΩ

SWITCH UNIT (X13-4860-11)
Component side view

Refer to the schematic diagram for the values of resistors and capacitors.
The PC board drawing is viewing from the side easy to check.



(X05-3110-10)

IC1	:LA1265
IC2	:AN7470
IC3	:TC9157AP
IC4	:TD6104P

Q1	:2SK161(GR)
Q2	:2SC1923(O)
Q3,5,6	:2SC1923(R,O)
Q7,8,16,17,22,25,29,30,32,35,36	:2SC945(A)(Q,P) or 2SC2320(E,F)
Q13,21,23,24,26,31,33	:2SA733(A)(Q,P) or 2SA999(E,F)
Q19,20	:2SC2878 or 2SD1302(S)
Q34	:2SC2167(Y,G) or 2SD330(E,F)
Q37	:2SC2003(L,K)

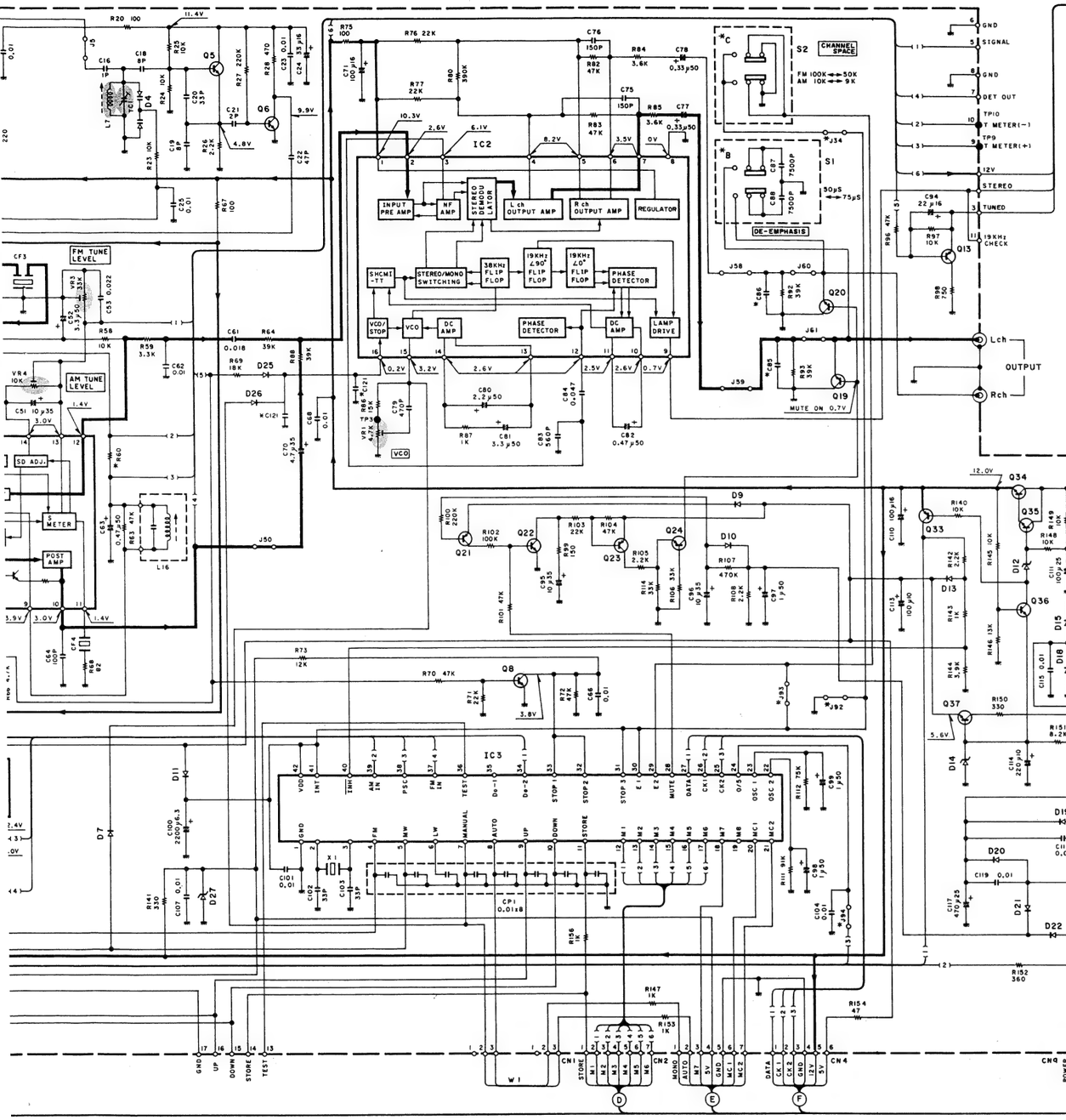
D1,2,4	:KV1310-3
D5	:KV1236(Z2)

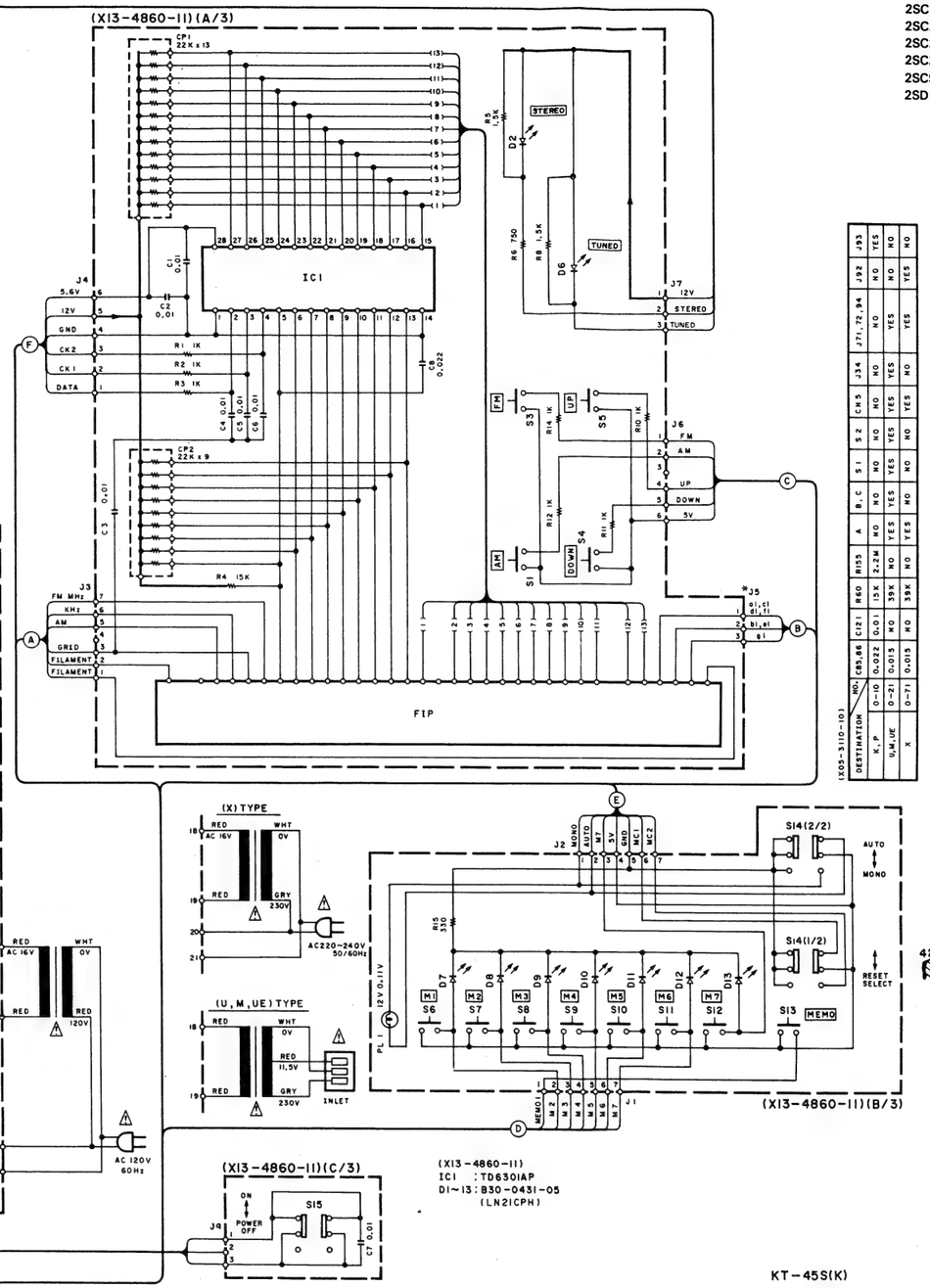
D8~11,13,24~26	:1SS133
D12,27	:RD4.7E(B)
D14	:RD6.2JS(B2)
D15~20	:DSM1A1
D21,22	:1SS178

DC voltages are as measured with a high-impedance voltmeter during reception of the FM broadcast signal (with a signal strength of 60 dB at the ANT terminal). Values may vary slightly due to variations between individual instruments or/and units. Values in parentheses are as measured during reception of the AM broadcast signal (with a signal strength of 60 dB at the ANT terminal).

Les tensions c.c. doivent être mesurées avec un voltmètre à haute impédance pendant la réception d'un signal de programme FM (avec une force de signal de 60 dB à la borne ANT). Les valeurs peuvent différer légèrement du fait des variations inhérentes aux appareils et aux instruments de mesure individuels.
Les valeurs entre parenthèses doivent être mesurées pendant la réception d'un signal de programme AM avec une force de signal de 60 dB à la borne ANT).

Die angegebenen Gleichspannungswerte wurden einem hochohmigen Spannungsmesser bei Empf eines UKW-Signals (mit einer Feldstärke von 60 dB Antennenanschluß) gemessen. Dabei schwanken Meßwerte aufgrund von Unterschieden zwisc einzelnen Instrumenten oder Geräten u.U. geringfü Die eingeklammerten Gleichspannungswerte wur bei Empfang eines MW-Signals (mit einer Feldstä von 60 dB am Antennenanschluß) gemessen.

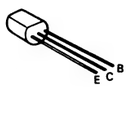




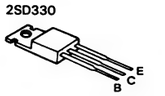
DESTINATION	NO	CB5,B6	C121	R160	R155	A	B,C	S1	S2	CN13	J34	J71,72,94	J92	J93
K,P	0~10	0.022	0.01	15K	2.2M	NO	NO	NO	NO	NO	NO	NO	NO	YES
U,M,UE	0~21	0.015	NO	39K	NO	YES	YES	YES	YES	YES	YES	YES	YES	NO
X	0~71	0.015	NO	39K	NO	YES	NO	NO	NO	YES	NO	YES	NO	NO

(XS05-3110-10)

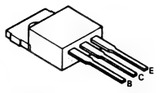
2SA733 (A)
2SA999
2SC1923
2SC2003
2SC2320
2SC2878
2SC945 (A)
2SD1302



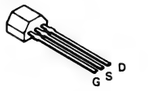
2SD330



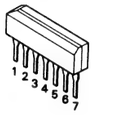
2SC2167



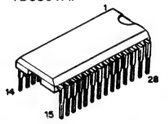
2SK161



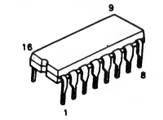
TD6104P



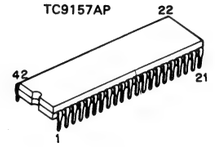
TD6301AP



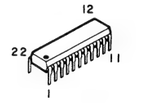
AN7470



TC9157AP



LA1265



DC voltages are as measured with a high-impedance voltmeter during reception of the FM broadcast signal (with a signal strength of 60 dB at the ANT terminal). Values may vary slightly due to variations between individual instruments or/and units. Values in parentheses are as measured during reception of the AM broadcast signal (with a signal strength of 60 dB at the ANT terminal).

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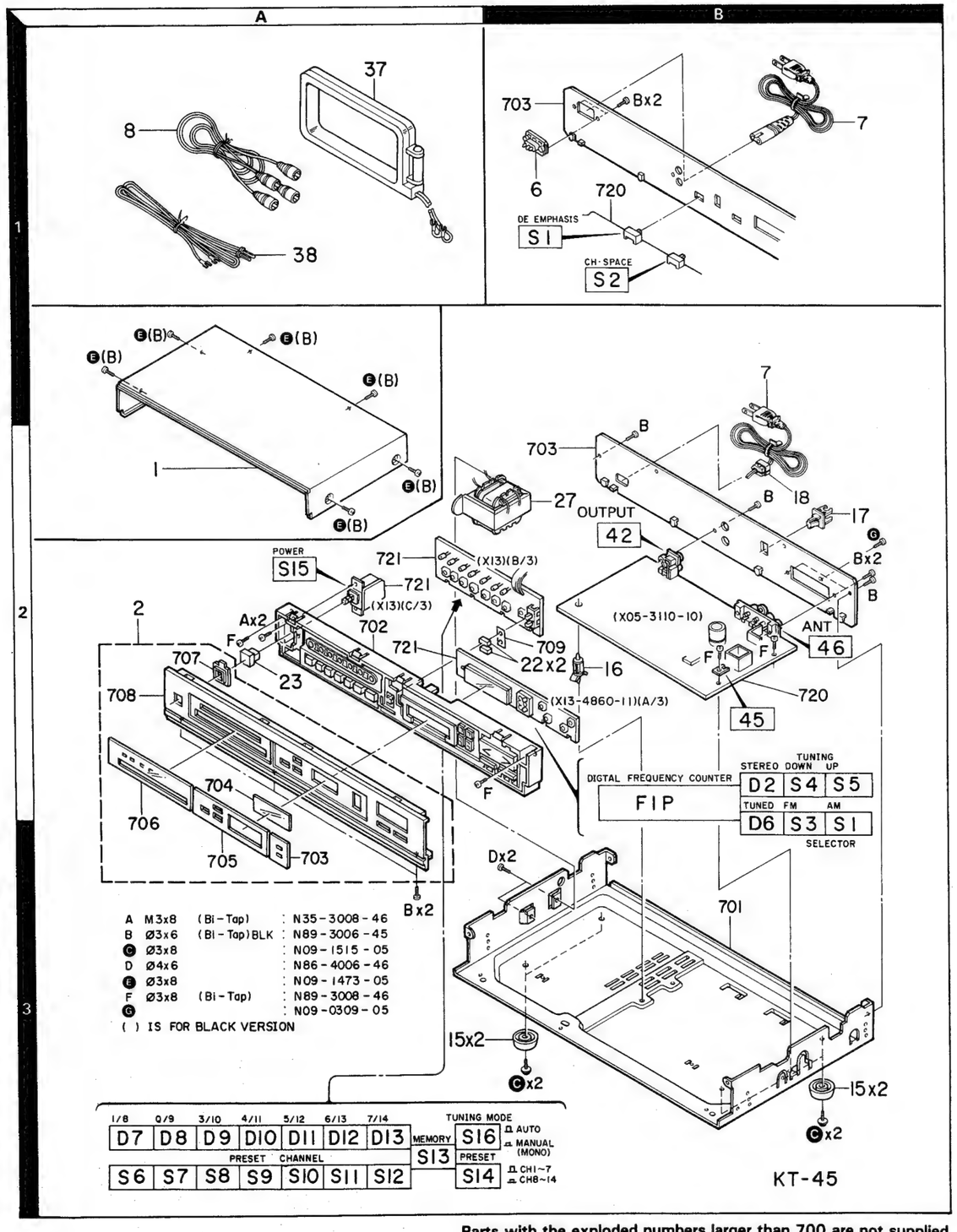
CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). ⚠ Indicates safety critical components. To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

KT-45

KENWOOD

KT-45S(K)

EXPLODED VIEW



Parts with the exploded numbers larger than 700 are not supplied.

PARTS LIST

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Teile ohne **Parts No.** werden nicht geliefert.

Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名／規格	Destination 仕向	Remarks 備考
			KT-45			
1	2A		A01-1389-01	METALLIC CABINET	M2A2	
1	2A		A01-1469-01	METALLIC CABINET	KPUUE	
1	2A		A01-1469-01	METALLIC CABINET	XA1M1	
2	2A	*	A20-4920-02	PANEL ASSY	KPUUE	
2	2A	*	A20-4920-02	PANEL ASSY	XA1M1	
2	2A	*	A20-4921-02	PANEL ASSY	M2A2	
-			B46-0092-03	WARRANTY CARD	K	
-			B46-0094-03	WARRANTY CARD	UUE	
-			B46-0095-03	WARRANTY CARD	UUE	
-			B46-0096-13	WARRANTY CARD	X	
-			B46-0121-03	WARRANTY CARD	P	
-		*	B50-6142-00	INSTRUCTION MANUAL (ENGLISH)		
-		*	B50-6143-00	INSTRUCTION MANUAL (FRENCH)	PM1XM2	
-		*	B50-6143-00	INSTRUCTION MANUAL (FRENCH)	A1A2	
-		*	B50-6144-00	INSTRUCTION MANUAL (SPANISH)	M1M2	
-		*	B50-6144-00	INSTRUCTION MANUAL (SPANISH)	A1A2	
-		*	B50-6145-00	INSTRUCTION MANUAL (ARABIC)	M1M2	
-		*	B50-6145-00	INSTRUCTION MANUAL (ARABIC)	A1A2	
-			B58-0223-04	CAUTION CARD (PRE-SET 120V)	U	
-			B58-0269-04	CAUTION CARD	K	
-			B58-0513-04	CAUTION CARD (PRESET220-240)	UE	
-			B59-0092-00	SERVICE DIRECTORY	UUE	
⚠ 6	1B		E03-0102-25	AC INLET	UM1UE	
⚠ 6	1B		E03-0102-25	AC INLET	M2A1A2	
8	1A		E30-0505-05	AUDIO CORD		
⚠ 9	1B		E30-0181-05	AC POWER CORD	P	
⚠ 9	1B		E30-0996-05	AC POWER CORD	K	
⚠ 9	1B		E30-1305-15	AC POWER CORD (INLET)	UM1UE	
⚠ 9	1B		E30-1329-05	AC POWER CORD (INLET)	M2A1A2	
⚠ 9	1B		E30-1341-05	AC POWER CORD	X	
-		*	H01-7143-04	ITEM CARTON CASE	KPUUE	
-		*	H01-7143-04	ITEM CARTON CASE	XA1M1	
-		*	H01-7144-04	ITEM CARTON CASE	M2A2	
-			H10-3301-02	POLYSTYRENE FOAMED FIXTURE		
-			H25-0223-04	PROTECTION BAG (750X350)		
-			H25-0232-04	PROTECTION BAG (235X350)		
15	3A,3B		J02-0161-04	FOOT		
16	2B		J19-0515-05	UNIT HOLDER		
17	2B		J19-0626-12	ANTENNA HOLDER		
⚠ 18	2B		J42-0083-05	POWER CORD BUSHING	KPX	
-			J61-0307-05	WIRE BAND		
22	2B		K27-1424-04	KNOB (BUTTON) FM AUTO,PRESET		
23	2A		K29-1446-04	KNOB ASSY POWER	M2A2	
23	2A		K29-2001-04	KNOB ASSY POWER	KPUUE	
23	2A		K29-2001-04	KNOB ASSY POWER	XA1M1	
⚠ 27	2B		L01-6631-05	POWER TRANSFORMER	KP	
⚠ 27	2B		L01-6632-05	POWER TRANSFORMER	X	
⚠ 27	2B		L01-6634-05	POWER TRANSFORMER	UM1UE	
⚠ 27	2B	*	L01-6637-05	POWER TRANSFORMER	A1A2	
C	3B		N09-1515-05	TAPPING SCREW (3X8)		

E: Scandinavia & Europe H:Audio Club K: USA P: Canada W:Europe
T: England U: PX(Far East, Hawaii)
UE : AAFES(Europe) X: Australia M: Other Areas **A: Saudi Arabia**

M2 and **E2** are silver type
⚠ indicates safety critical components.

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1	2A		A01-1469-01	METALLIC CABINET	KPUUE	
1	2A		A01-1469-01	METALLIC CABINET	XA1M1	
2	2A	*	A20-4920-02	PANEL ASSY	KPUUE	
2	2A	*	A20-4920-02	PANEL ASSY	XA1M1	
2	2A	*	A20-4921-02	PANEL ASSY	M2A2	
-			B46-0092-03	WARRANTY CARD	K	
-			B46-0094-03	WARRANTY CARD	UUE	
-			B46-0095-03	WARRANTY CARD	UUE	
-			B46-0096-13	WARRANTY CARD	X	
-			B46-0121-03	WARRANTY CARD	P	
-		*	B50-6142-00	INSTRUCTION MANUAL (ENGLISH)		
-		*	B50-6143-00	INSTRUCTION MANUAL (FRENCH)	PM1XM2	
-		*	B50-6143-00	INSTRUCTION MANUAL (FRENCH)	A1A2	
-		*	B50-6144-00	INSTRUCTION MANUAL (SPANISH)	M1M2	
-		*	B50-6144-00	INSTRUCTION MANUAL (SPANISH)	A1A2	
-		*	B50-6145-00	INSTRUCTION MANUAL (ARABIC)	M1M2	
-		*	B50-6145-00	INSTRUCTION MANUAL (ARABIC)	A1A2	
-			B58-0223-04	CAUTION CARD (PRE-SET 120V)	U	
-			B58-0269-04	CAUTION CARD	K	
-			B58-0513-04	CAUTION CARD (PRESET220-240)	UE	
-			B59-0092-00	SERVICE DIRECTORY	UUE	
⚠ 6	1B		E03-0102-25	AC INLET	UM1UE	
⚠ 6	1B		E03-0102-25	AC INLET	M2A1A2	
8	1A		E30-0505-05	AUDIO CORD		
⚠ 9	1B		E30-0181-05	AC POWER CORD	P	
⚠ 9	1B		E30-0996-05	AC POWER CORD	K	
⚠ 9	1B		E30-1305-15	AC POWER CORD (INLET)	UM1UE	
⚠ 9	1B		E30-1329-05	AC POWER CORD (INLET)	M2A1A2	
⚠ 9	1B		E30-1341-05	AC POWER CORD	X	
-		*	H01-7143-04	ITEM CARTON CASE	KPUUE	
-		*	H01-7143-04	ITEM CARTON CASE	XA1M1	
-		*	H01-7144-04	ITEM CARTON CASE	M2A2	
-			H10-3301-02	POLYSTYRENE FOAMED FIXTURE		
-			H25-0223-04	PROTECTION BAG (750X350)		
-			H25-0232-04	PROTECTION BAG (235X350)		
15	3A,3B		J02-0161-04	FOOT		
16	2B		J19-0515-05	UNIT HOLDER		
17	2B		J19-0626-12	ANTENNA HOLDER		
⚠ 18	2B		J42-0083-05	POWER CORD BUSHING	KPX	
-			J61-0307-05	WIRE BAND		
22	2B		K27-1424-04	KNOB (BUTTON) FM AUTO,PRESET		
23	2A		K29-1446-04	KNOB ASSY POWER	M2A2	
23	2A		K29-2001-04	KNOB ASSY POWER	KPUUE	
23	2A		K29-2001-04	KNOB ASSY POWER	XA1M1	
⚠ 27	2B		L01-6631-05	POWER TRANSFORMER	KP	
⚠ 27	2B		L01-6632-05	POWER TRANSFORMER	X	
⚠ 27	2B		L01-6634-05	POWER TRANSFORMER	UM1UE	
⚠ 27	2B	*	L01-6637-05	POWER TRANSFORMER	A1A2	
C	3B		N09-1515-05	TAPPING SCREW (3X8)		

E: Scandinavia & Europe H:Audio Club K: USA P: Canada W:Europe
T: England U: PX(Far East, Hawaii)
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E	1A,2A		N09-1473-05	TAPPING SCREW (M3X8)	M2A2	
G	2B		N09-0309-05	TAPTITE SCREW (3X8)	K	
37	1A		T90-0104-25	LOOP ANTENNA		
38	1A		T90-0132-05	T TYPE ANTENNA		
			TUNER UNIT (X05-3110-10)			
C1			CC45FSL1H010C	CERAMIC 1.0PF C		
C2			CC45FSL1H220J	CERAMIC 22PF J		
C3			CK45FF1H103Z	CERAMIC 0.010UF Z		
C5			CK45FB1H102K	CERAMIC 1000PF K		
C6			CC45FSL1H030C	CERAMIC 3.0PF C		
C8			CC45FSL1H040C	CERAMIC 4.0PF C		
C9			CC45FSL1H221J	CERAMIC 220PF J		
C10			CC45FSL1H060D	CERAMIC 6.0PF D		
C11 -14			CK45FF1H103Z	CERAMIC 0.010UF Z		
C16			CC45FSL1H010C	CERAMIC 1.0PF C		
C18 ,19			CC45FSL1H080D	CERAMIC 8.0PF D		
C20			CC45FSL1H330J	CERAMIC 33PF J		
C21			CC45FSL1H020C	CERAMIC 2.0PF C		
C22			CC45FSL1H470J	CERAMIC 47PF J		
C23			C91-0769-05	CERAMIC 0.01UF M		
C24			CE04KW1C330M	ELECTRO 33UF 16WV		
C25 ,26			CK45FF1H103Z	CERAMIC 0.010UF Z		
C33			CK45FF1H223Z	CERAMIC 0.022UF Z		
C36			C91-0085-05	CERAMIC 0.022UF N		
C39			C009FS1H391JY0	POLYSTY 390PF J		
C40			CE04KW1H010M	ELECTRO 1.0UF 50WV		
C41			CK45FF1H223Z	CERAMIC 0.022UF Z		
C42			CE04KW1HR47M	ELECTRO 0.47UF 50WV		
C43			CE04KW1C470M	ELECTRO 47UF 16WV		
C44			CK45FF1H103Z	CERAMIC 0.010UF Z		
C45			C91-0769-05	CERAMIC 0.01UF M		
C46			CK45FB1H102K	CERAMIC 1000PF K		
C47			CC45FSL1H220J	CERAMIC 22PF J		
C48			C91-0085-05	CERAMIC 0.022UF N		
C49			CE04KW1C220M	ELECTRO 22UF 16WV		
C50			CE04KW1V4R7M	ELECTRO 4.7UF 35WV		
C51			CE04KW1V100M	ELECTRO 10UF 35WV		
C52			CE04KW1H3R3M	ELECTRO 3.3UF 50WV		
C53			CK45FF1H223Z	CERAMIC 0.022UF Z		
C56			CK45FF1H103Z	CERAMIC 0.010UF Z		
C57 ,58			C91-0085-05	CERAMIC 0.022UF N		
C59			CE04KW1C470M	ELECTRO 47UF 16WV		
C60			CK45FF1H223Z	CERAMIC 0.022UF Z		
C61			CF92FV1H183J	MF 0.018UF J		
C62			CF92FV1H103J	MF 0.010UF J		
C63			CE04KW1HR47M	ELECTRO 0.47UF 50WV		
C64			CC45FSL1H101J	CERAMIC 100PF J		
C65 ,66			C91-0769-05	CERAMIC 0.01UF M		
C67			CE04KW1H2R2M	ELECTRO 2.2UF 50WV		
C68			CK45FF1H103Z	CERAMIC 0.010UF Z		
C70			CE04KW1V4R7M	ELECTRO 4.7UF 35WV		
C71			CE04KW1C101M	ELECTRO 100UF 16WV		
C75 ,76			CC45FSL1H151J	CERAMIC 150PF J		
C77 ,78			CE04KW1HR33M	ELECTRO 0.33UF 50WV		

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C79			CQ09FS1H471JY0	P0LYSTY 470PF J		
C80			CE04KW1H2R2M	ELECTR0 2.2UF 50WV		
C81			CE04KW1H3R3M	ELECTR0 3.3UF 50WV		
C82			CE04KW1HR47M	ELECTR0 0.47UF 50WV		
C83			CK45FB1H561K	CERAMIC 560PF K		
C84			CF92FV1H473J	MF 0.047UF J		
C85 ,86			CF92FV1H153J	MF 0.015UF J	UUEXM1	
C85 ,86			CF92FV1H153J	MF 0.015UF J	M2A1A2	
C85 ,86			CF92FV1H223J	MF 0.022UF J	KP	
C87 ,88			CF92FV1H752J	MF 7500PF J	UUEM1	
C87 ,88			CF92FV1H752J	MF 7500PF J	M2A1A2	
C94			CE04KW1C220M	ELECTR0 22UF 16WV		
C95 ,96			CE04KW1V100M	ELECTR0 10UF 35WV		
C97 -99			CE04KW1H010M	ELECTR0 1.0UF 50WV		
C100			CE04KW0J222M	ELECTR0 2200UF 6.3WV		
C101			CK45FF1H103Z	CERAMIC 0.010UF Z		
C102,103			CC45FCH1H330J	CERAMIC 33PF J		
C104,105			CK45FF1H103Z	CERAMIC 0.010UF Z		
C107			C91-0769-05	CERAMIC 0.01UF M		
C110			CE04KW1C101M	ELECTR0 100UF 16WV		
C111			CE04KW1E101M	ELECTR0 100UF 25WV		
C112			CE04KW1H102M	ELECTR0 1000UF 50WV		
C113			CE04KW1A101M	ELECTR0 100UF 10WV		
C114			CE04KW1A221M	ELECTR0 220UF 10WV		
C115,116			CK45FF1H103Z	CERAMIC 0.010UF Z		
C117			CE04KW1E471M	ELECTR0 470UF 25WV		
C118,119			CK45FF1H103Z	CERAMIC 0.010UF Z		
C121			CK45FF1H103Z	CERAMIC 0.010UF Z	KP	
TC1			C05-0302-05	CERAMIC TRIMMER CAPACITOR(11PF		
TC2 ,3			C05-0303-05	CERAMIC TRIMMER CAPACITOR(20PF		
42	2B		E13-0217-05	PH0N0 JACK (2P) 0UTPUT		
45	2B		E23-0125-05	TREMINAL (GND)		
46	2B		E20-0452-05	SCREW TERMINAL B0ARD(4P) ANT		
CF1 ,2			L72-0140-05	CERAMIC FILTER		
CF3			L72-0099-05	CERAMIC FILTER		
CF4			L72-0096-05	CERAMIC FILTER		
L1			L31-0518-05	FM-RF C0IL		
L2			L31-0520-05	FM-RF C0IL		
L3			L31-0527-05	FM-RF C0IL		
L4			L31-0514-05	FM-RF C0IL		
L6			L40-1092-14	SMALL FIXED INDUCT0R(1.0UH,M)		
L7			L32-0270-05	FM 0SCILLATING C0IL		
L8			L40-1021-14	SMALL FIXED INDUCT0R(1.0MH,K)		
L9			L32-0277-15	MW 0SCILLATING C0IL		
L11			L31-0509-05	MW-RF C0IL		
L13			L40-1092-14	SMALL FIXED INDUCT0R(1.0UH,M)		
L16			L39-0128-05	DISCRI C0IL		
T1			L30-0427-05	FM IFT		
T2			L30-0439-05	FM IFT		
T3			L30-0362-05	AM IFT		
X1			L77-0578-05	CRYSTAL RES0NAT0R(7.2MHZ)		
CP1			R90-0552-05	MULTI-C0MP 0.01UF X8		
R5			RD14AB2E101J	FL-PR00F RD 100 J 1/4W	KPX	
R12			RD14AB2E101J	FL-PR00F RD 100 J 1/4W	KPX	

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R20			RD14AB2E101J	FL-PR00F RD 100 J 1/4W	KPX	
R52			RD14GB2E101J	FL-PR00F RD 100 J 1/4W	KPX	
R67			RD14GB2E101J	FL-PR00F RD 100 J 1/4W	KPX	
R75			RD14AB2E101J	FL-PR00F RD 100 J 1/4W	KPX	
R141			RD14GB2E331J	FL-PR00F RD 330 J 1/4W		
R150			RS14DB3A331J	FL-PR00F RS 330 J 1W	KPX	
R150			RS14KB3A331J	FL-PR00F RS 330 J 1W	UUEM1	
R150			RS14KB3A331J	FL-PR00F RS 330 J 1W	M2A1A2	
R152			RS14DB3D361J	FL-PR00F RS 360 J 2W	KPX	
R152			RS14KB3D361J	FL-PR00F RS 360 J 2W	UUEM1	
R152			RS14KB3D361J	FL-PR00F RS 360 J 2W	M2A1A2	
R155			R92-0173-05	RC 2.2M M 1/2W	KP	
VR1			R12-1069-05	TRIMMING POT. (4.7K) VCO		
VR3			R12-3098-05	TRIMMING POT. (33K) FM TUNE		
VR4			R12-3096-05	TRIMMING POT. (10K) AM TUNE		
S1 ,2	1B		S31-2094-05	SLIDE SWITCH(DEEMPHASIS,CH-SP)	UUEM1	
S1 ,2	1B		S31-2094-05	SLIDE SWITCH(DEEMPHASIS,CH-SP)	M2A1A2	
D1 ,2			KV1310-3	VARIABLE CAPACITANCE DIODE		
D4			KV1310-3	VARIABLE CAPACITANCE DIODE		
D5			KV1236(Z2)	VARIABLE CAPACITANCE DIODE		
D7			1SS133	DIODE		
D9 -11			1SS133	DIODE		
D12			HZS4.7N(B)	ZENER DIODE		
D12			RD4.7E(B)	ZENER DIODE		
D13			1SS133	DIODE		
D14		*	RD6.2JS(B2)	ZENER DIODE		
D15 -20			DSM1A1	DIODE		
D21 ,22			1SS178	DIODE		
D24 -26			1SS133	DIODE		
D27			HZS4.7N(B)	ZENER DIODE		
D27			RD4.7E(B)	ZENER DIODE		
IC1			LA1265	IC(FM/AM TUNER)		
IC2			AN7470	IC(FM MPX)		
IC3			TC9157AP	IC(DIGITAL TUNING SYSTEM)		
IC4			TD6104P	IC(PRE SCALER)		
Q1			2SK161(GR)	FET		
Q2			2SC1923(Q)	TRANSISTOR		
Q3			2SC1923(R,Q)	TRANSISTOR		
Q5 ,6			2SC1923(R,Q)	TRANSISTOR		
Q7 ,8			2SC2320(E,F)	TRANSISTOR		
Q7 ,8			2SC945(A)(Q,P)	TRANSISTOR		
Q13			2SA733(A)(Q,P)	TRANSISTOR		
Q13			2SA999(E,F)	TRANSISTOR		
Q16 ,17			2SC2320(E,F)	TRANSISTOR		
Q16 ,17			2SC945(A)(Q,P)	TRANSISTOR		
Q19 ,20			2SC2878	TRANSISTOR		
Q19 ,20			2SD1302(S)	TRANSISTOR		
Q21			2SA733(A)(Q,P)	TRANSISTOR		
Q21			2SA999(E,F)	TRANSISTOR		
Q22			2SC2320(E,F)	TRANSISTOR		
Q22			2SC945(A)(Q,P)	TRANSISTOR		
Q23 ,24			2SA733(A)(Q,P)	TRANSISTOR		
Q23 ,24			2SA999(E,F)	TRANSISTOR		
Q25			2SC2320(E,F)	TRANSISTOR		

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Q25			2SC945(A)(Q,P)	TRANSISTOR		
Q26			2SA733(A)(Q,P)	TRANSISTOR		
Q26			2SA999(E,F)	TRANSISTOR		
Q29 ,30			2SC945(A)(Q,P)	TRANSISTOR	UUEXM1	
Q29 ,30			2SC945(A)(Q,P)	TRANSISTOR	M2A1A2	
Q31			2SA733(A)(Q,P)	TRANSISTOR		
Q31			2SA999(E,F)	TRANSISTOR		
Q32			2SC2320(E,F)	TRANSISTOR		
Q32			2SC945(A)(Q,P)	TRANSISTOR		
Q33			2SA733(A)(Q,P)	TRANSISTOR		
Q33			2SA999(E,F)	TRANSISTOR		
Q34			2SC2167(Y,G)	TRANSISTOR		
Q34			2SD330(E,F)	TRANSISTOR		
Q35 ,36			2SC2320(E,F)	TRANSISTOR		
Q35 ,36			2SC945(A)(Q,P)	TRANSISTOR		
Q37			2SC2003(L,K)	TRANSISTOR		
SWITCH UNIT (X13-4860-11)						
D2			B30-0431-05	LED(LN21CPH)		
D6 -13			B30-0431-05	LED(LN21CPH)		
C1 -6			C91-0769-05	CERAMIC 0.01UF M		
C7			CK45FF1H103Z	CERAMIC 0.010UF Z		
C8			CK45FF1H223Z	CERAMIC 0.022UF Z		
CP1		*	R90-0443-05	MULTI-COMP 22KX13 J 1/6W		
CP2		*	R90-0442-05	MULTI-COMP 22KX9 J 1/6W		
S1			S40-1064-05	PUSH SWITCH		
S3 -13			S40-1064-05	PUSH SWITCH		
S14		*	S42-2137-05	MULTIPLE PUSH SWITCH		
S15	2A		S40-2182-15	PUSH SWITCH (POWER)		
FIP	2B		7-BT-20ZK	FLUORESCENT INDICATOR TUBE		
IC1			TD6301AP	IC(FL/LED/LCD FREQ DISPLAY DR)		

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T-45

SPECIFICATIONS

[FM tuner section]	
Usable sensitivity	10.8 dBf (0.95 μV)
50dB quieting sensitivity	
Mono	14.7 dBf (3 μV)
Stereo	39 dBf (49 μV)
Signal to noise ratio	
Mono	76 dB at 65 dBf, 76 dB at 85 dBf
Stereo	70 dB at 65 dBf, 70 dB at 85 dBf
Total harmonic distortion	
Mono: 100 Hz	0.2%
1 kHz	0.2%
50 Hz ~ 10 kHz	0.5%
Stereo: 100 Hz	0.3%
1 kHz	0.3%
50 Hz ~ 10 kHz	0.9%
Capture ratio	2.0 dB
Alternate channel selectivity	50 dB
Stereo separation	
1 kHz	45 dB
50 Hz ~ 10 kHz	35 dB
Frequency response	30 Hz to 15 kHz +0.5 dB, –2.5 dB
Spurious rejection ratio	75 dB
Image rejection ratio	40 dB
IF rejection ratio	85 dB
AM suppression ratio	55 dB
Sub-carrier suppression ratio	35 dB
Antenna impedance	75Ω unbalanced & 300Ω balanced
FM frequency range	87.5 MHz to 108 MHz
Output level/impedance at 1 kHz, 100% dev.	0.6V/3.3 kΩ
[AM tuner section]	
Usable sensitivity	20 μV (400 μV/m)
Signal to noise ratio	50 dB
Total harmonic distortion	0.6%
Image rejection ratio	35 dB
IF rejection ratio	50 dB
Selectivity	25 dB
Output level/impedance (400 Hz, 30% Mod.)	0.18V/3.3 kΩ
[General]	
Power consumption	8 W
Dimensions	W: 420 mm (16-9/16") H: 72 mm (2-13/16") D: 276 mm (10-7/8")
Weight (Net)	2.9 kg (6.4 lb)

Note:

We follow a policy of continuous advancements in development. For this reason specifications may be changed without notice.

TRIO-KENWOOD CORPORATION